The first record of the Hairy-nosed Freetail Bat in New South Wales

Murray Ellis

NSW NPWS, PO Box 1007, DUBBO NSW 2830

Email: murray.ellis@npws.nsw.gov.au

The genus Mormopterus (family Molossidae) is in need of taxonomic revision in Australia. Churchill (1998) and Duncan et al. (1999) recognised seven undescribed species within the genus, based around genetic distinctions described by Adams et al. (1988) and unpublished morphological data from Norm Mackenzie (Conservation and Land Management, Western Australia). The current lack of formal recognition of these forms has led to difficulty with nomenclature in the literature. Diagnostic keys in Churchill (1998) now allow for identification of the various undescribed forms.

Recent surveys in western New South Wales (Ellis and Wilson 1992, Smith et al. 1998, Mazzer et al. 1998) recorded the two undescribed species currently included in Mormopterus planiceps and listed in Churchill (1998) as the Inland Freetail Bat and the Southern Freetail Bat. A series of these surveys was conducted in the north of the inland with one being conducted at Gundabooka National Park, 50 km south west of Bourke (Fig. 1). More recently the New South Wales National Parks and Wildlife Service conducted further surveys in the Cobar Peneplain bioregion, comprising the central plains of NSW running from near Bourke in the north to almost Griffith in the south (Thackway and Creswell 1995). The first of these surveys involved resampling the sites in Gundabooka National Park used by Smith et al. (1998).

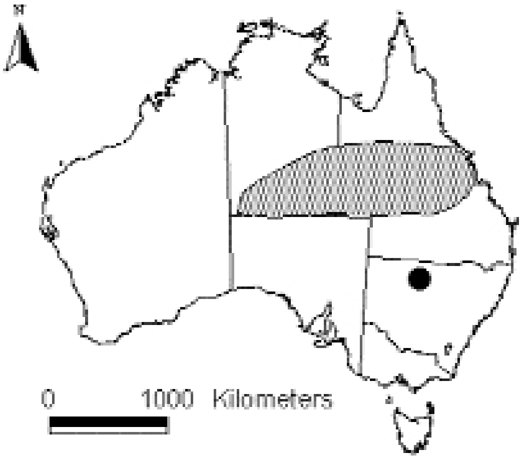

Figure 1. The location of the capture site near Bourke NSW in relation to the published distribution for the Hairy-nosed Freetail Bat after Churchill (1998).

At one of the sites at Yanda Creek, three unusual Mormopterus were captured in a harp trap set under a eucalypt tree on the margins of the dry creek bed on the 21 November 1998. Two lactating females (forearm lengths 32.6 and 34.0 mm) were released while the male was kept as a specimen for taxonomic clarification and lodged with the Australian Museum (registration number M33936). Morphometric data for the specimen include forearm 33.7 mm, fifth digit 37.5 mm, tibia 10.7 mm and tail 34.2 mm. The full list of bats captured at the site is in Table 1.

Table 1. Bat species caught on two survey sessions in Yanda Creek.

Dates	Scientific name	Common name
4-6 Oct 1994	*Chalinolobus gouldii*	Gould's Wattled Bat
	Chalinolobus picatus	Little Pied Bat
	Nyctophilus geoffroyi	Lesser Long-eared Bat
	Scotorepens greyii	Little Broad-nosed Bat
19-21 Nov 1997	*Nyctophilus geoffroyi*	Lesser Long-eared Bat
	Mormopterus planiceps (small penis)	Inland freetail Bat
	Scotorepens balstoni	Inland Broad-nosed Bat
	Scotorepens greyii	Little Broad-nosed Bat
	Mormopterus sp.	Hairy-nosed freetail Bat

The animals, while clearly being Mormopterus, had facial characteristics unlike either species in the Mormopterus planiceps complex. Discussions with Sue Churchill about its characteristics and comparison with Churchill (1998) indicated that it is most referable to the Hairy-nosed Freetail Bat. This identification was confirmed by Terry Reardon of the South Australian Museum. These specimens are the first known records of this form in NSW and represent a large extension to the known range, being 500 km south of the distribution given in Churchill (1998) (Fig 1).

The habitat in which these animals were captured has similarities with those described in Churchill (1998). The site was a River Red Gum Eucalyptus camaldulensis and Poplar Box E. populnea lined watercourse set in Poplar Box woodlands with areas of Mulga Acacia aneura shrublands in the vicinity. Such riverine areas traverse much of western NSW and give rise to the possibility that this species occurs widely, if somewhat sparsely, over large parts of north-western NSW. Currently the Hairy-nosed Freetail Bat has the status of Data Deficient in the Action Plan for Australian Bats (Duncan et al. 1999)

The paucity of bat records from the inland of NSW and the fact that extensions to the known range of species such as this are still commonplace demonstrates that the inland bat fauna is poorly understood. This lack of knowledge may have undesirable implications for bat conservation since clearing and development are still proceeding on the western plains. Bat surveys must be an integral part of any fauna survey in western NSW until this deficiency is redressed. Similarly, taxonomic studies are essential if we are to know what species we are trying to conserve and what field data applies to which entity. When such studies are completed for Mormopterus we will be able to assign this specimen and its associated data to a species with more confidence than is currently possible.

Acknowledgements

This paper has changed from a tentative proposal to a confident statement based on the suggestions and comments by Terry Reardon and an anonymous referee, and by the confirmation of the identity of the bat from Yanda Creek by Terry Reardon. I would also like to thank Sue Churchill for the discussions about the possible identity of the animal, which lead to the tentative identification, and to Brad Law for arranging for Terry Reardon's input. The author was licensed by the NSW NPWS (Scientific licence A271 and ACEC permit 17) and this survey was conducted in conjunction with Pip Masters and Else Foster running the Cobar Peneplain Bioregional Survey for the NSW NPWS.

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